# 10 Common Software Architectural Patterns in a nutshell

*Translation: 10种常见的软件体系结构模式*

Ever wondered how large enterprise scale systems are designed? Before major software development starts, we have to choose a suitable architecture that will provide us with the desired functionality and quality attributes. Hence, we should understand different architectures, before applying them to our design.

*Translation: 有没有想过大型企业级系统是如何设计的？在主要的软件开发开始之前，我们必须选择一个合适的体系结构，为我们提供所需的功能和质量属性。因此，在将不同的体系结构应用于我们的设计之前，我们应该了解它们。*

## What is an Architectural Pattern?

According to Wikipedia,

An architectural pattern is a general, reusable solution to a commonly occurring problem in software architecture within a given context. Architectural patterns are similar to software design pattern but have a broader scope.

*Translation: 体系结构模式是对给定上下文中软件体系结构中常见问题的通用、可重用的解决方案。体系结构模式与软件设计模式相似，但范围更广。*

In this article, I will be briefly explaining the following 10 common architectural patterns with their usage, pros and cons.

*Translation: 在本文中，我将简要解释以下10种常见的体系结构模式及其用法、优点和缺点。*

Layered pattern

*Translation: 分层图案*

Client-server pattern

Master-slave pattern

Pipe-filter pattern

Broker pattern

*Translation: Broker模式*

Peer-to-peer pattern

*Translation: 对等模式*

Event-bus pattern

*Translation: 事件总线模式*

Model-view-controller pattern

Blackboard pattern

Interpreter pattern

# 1. Layered pattern

*Translation: 1.分层图案*

This pattern can be used to structure programs that can be decomposed into groups of subtasks, each of which is at a particular level of abstraction. Each layer provides services to the next higher layer.

*Translation: 这种模式可以用于构建程序，这些程序可以分解为子任务组，每个子任务都处于特定的抽象级别。每一层都向下一个更高层提供服务。*

The most commonly found 4 layers of a general information system are as follows.

Presentation layer (also known as UI layer)

Application layer (also known as service layer)

Business logic layer (also known as domain layer)

Data access layer (also known as persistence layer)

*Translation: 数据访问层（也称为持久层）*

**Usage**

*Translation: 用法*

General desktop applications.

E commerce web applications.

## 2. Client-server pattern

This pattern consists of two parties; a server and multiple clients. The server component will provide services to multiple client components. Clients request…